

[CODE IMPLANTATION PROCESS]

Abstract of Disclosure

The present invention provides a code implantation process for the mask read only memory (MROM). A gate oxide layer and a wordline are formed sequentially over a substrate having a buried bitline, with a cap layer formed on the top of the wordline. A dielectric layer is formed on the substrate that is not covered by the wordline and the cap layer. A resist layer with a line/space pattern is formed on the dielectric layer and the cap layer, while the line/space pattern has a first extending direction different to a second extending direction of the cap layer. After removing the cap layer not covered by the resist layer, a code mask layer is formed over the substrate. An ion implantation step is performed to implant dopants into a predetermined code channel region by using the code mask layer, the dielectric layer and the remained cap layer as a mask.

Figures